

The cocoons were on trees, exposed to the natural weather conditions of St. Louis during the winter .

3. *Telea polyphemus* Cramer.

Four larvæ of this species taken in the woods spun their cocoons within three or four days after being caged, and emerged as follows:

Sex.	Pupated.	Emerged.	Duration.
♂	9/19/'10	5/12/'11	235 Days.
♀	9/22/'10	5/13/'11	233 "
♂	9/23/'10	5/16/'11	235 "
♂	9/27/'10	5/11/'11	226 "

At first glance the figures above seem to show that the insects emerged in the order in which they pupated, but in the fourth instance we see that the individual which was the last to pupate emerged as an adult before any of the others.

It would be of interest to record similar data from year to year from one or more localities, in an attempt to discover the causes underlying any variation in the duration of the pupal period, and to discover if the pupal duration is in any way correlated with the longevity of the imago. We have found in connection with other work that the pupal period of the *Cecropia* moth varied greatly under changed conditions of temperature and moisture.

ST. LOUIS, Feb. 21, 1913.

NOTES ON VARIATION IN THE VENATION OF THE SPECIES OF THE GENUS *LEPTOGASTER*.

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In *The Entomologist* for July, 1913, vol. 46, p. 213, under the title "A Fossil Asilid Fly from Colorado," Prof. T. D. A. Cockerell proposes *Tipulogaster* "a new subgenus (or genus?)" for the recent *Leptogaster badius* Loew, based on the following characters: "The anal cell is narrowed apically as in *L. hellii* but the second posterior cell is no more produced basally than in *Cophura*. This also has the second submarginal cell shorter than in the typical *Leptogaster*, while the distance between its base and the anterior

cross-vein is much greater." To one having a large series of *L. badius* or a large number of the species of *Leptogaster*, the attempt to make a genus or even a subgenus on such trivial characters shows that the author had very little material at his command and had no idea how variable these characters are even in the same species.

Anal cell. The fifteen specimens of *L. badius* before me show the following variations: twelve females have the anal cell narrowed but varying from one in which the cell is very narrow and almost closed on one wing, to others in which the outer portions of the veins are almost parallel; in two males they are parallel, as in the typical *Leptogaster*.

In *L. testaceus*, a closely related species, three have the venation as in *L. badius* and two have the anal cell closed. In *L. incisularis* Loew, the anal cell is only slightly narrowed at the margin. *L. annulatus* Say, *marinus* and *flavipes* Loew, *virgatus* Coq., *claripes* and *obscuripennis* Johns., and *atrodorsalis* Back., all have the anal cell as in the type of the genus *L. cylindrica* DeG. (*L. tipuloides* Fabr.). On the other hand, in *L. brevicornis* and *pictipes* Loew, and *floridensis* Johns., the sixth longitudinal and the anal veins are widely divergent and consequently the anal cell is widest at the margin of the wing.

Second posterior and second submarginal cells. Here again we find all gradations between the type species and *L. badius*. *L. annulatus* and *atrodorsalis* which have typical anal cells, have the second posterior cells "less produced basally" than in *L. badius*; the former however, has a long second submarginal cell and the latter a short one. In *L. murinus*, *claripes*, *obscuripennis* and *virgatus*, the base of the second posterior cell is produced almost as much as in *L. cylindrica* but the second submarginal cell is as short as in *L. badius*. In the species with broad anal cells, *L. pictipes* and *floridensis* have the second posterior cell scarcely produced basally, the former has, however, a short and the latter a long second submarginal cell, while in *L. brevicornis* the second posterior cell is strongly produced basally and the second submarginal cell is long. The variation in the length of the second posterior cell was pointed out by Dr. E. A. Baek (Trans. Amer. Ent. Soc., XXXV, 157, 1909). In referring to what he terms the anterior intercalary

vein, he says: "In some species the venation mentioned is inclined to be variable in different or even in the same specimen."

Another variable character is referred to in Dr. Back's key to the species as "fourth posterior cell petiolate at the base or fourth posterior cell sessile or subsessile." *L. pictipes* may be either sessile, subsessile or with a short petiole. *L. annulatus* shows a similar variation although more rarely petiolate. One specimen of *L. pictipes* has the discal cell open on the left wing and another has an adventitious cross-vein in the second submarginal cell of the left wing. A specimen of *L. badius* and another referred doubtfully to *L. incisularis*, have a similar vein in the second posterior cell on the left and right wing respectively. An undetermined species has an adventitious cross-vein in each of the second posterior cells, and one in the second submarginal cell of the left wing. These examples are given to show possible mutations. The type of *L. badius* has the basal third of the wings subfuscus. This is only distinctly marked in one of the fifteen specimens.

THE LIFE HISTORY OF *THRYPTICUS MUHLENBERGLÆ* SP. NOV. (DIPTERA).

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On April 21, 1909, while examining some *Muhlenbergia sylvatica* on the shaded bank of Cascadilla Creek near the Cornell University Campus, Ithaca, N. Y., we noted that many of the stems were broken squarely off. The tip of the cavity was plugged with frass, and in each case a slender dipterous larva was found just below the plug. A number of these larvæ was taken from the straws and placed on cotton in a vial for rearing. By May 4, pupation has taken place. An adult fly was found alive on May 29. Again on May 5, 1910, similar pupæ were found in *Muhlenbergia* stems that had been collected about two weeks previous. Adults emerged from this material on May 24.

The flies were at first thought to be *T. willistoni* which they closely resemble, but subsequent study has convinced us that they are a new species. In order to get fresh material in all stages